

REMARKS/ARGUMENTS

Re-examination and favorable reconsideration in light of the above amendments and the following comments are respectfully requested.

Claims 13 - 24 are pending in the application. Currently, claims 13 - 23 stand rejected; and claim 24 stands withdrawn from consideration as being directed to a non-elected invention.

By the present amendment, claims 13 - 24 have been cancelled without prejudice; and claims 25 - 37 have been added to the application.

In the office action mailed February 18, 2010, claim 21 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite; and claims 13 - 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,752,901 to Musse in view of U.S. Patent No. 6,314,873 to Lee.

The foregoing rejections are now moot in view of the claim amendments to the application.

Independent claim 25 is directed to an apparatus for locally increasing pressing pressure on a press tool which, by means of an abutment surface thereon, is clampable against a clamping surface in a press, said apparatus comprising: the abutment surface of the press tool being smaller than the clamping surface in said press; a power unit provided in a contact region between the clamping surface in the press and the abutment surface of the tool; said power unit being configured on activation to press away from the clamping surface at least a part of the abutment surface on the tool; said power unit comprising at least two plates defining an interspace between said at

least two plates; said at least two plates being circumscribed by and being fastened to a frame member extending along peripheries of the plates; and said interspace being capable of being pressurized.

Independent claim 33 is directed to an apparatus for locally increasing pressing pressure on a press tool comprising: a clamping surface in a press; said clamping surface being adapted for clamping an abutment surface on the press tool thereagainst and for performing reciprocal movements for operating the press tool between an open position and a closed pressing position; a power unit provided between the clamping surface and the abutment surface; said power unit being smaller than the abutment surface; and said power unit being connected to a source of pressurized hydraulic fluid for exerting when activated by said hydraulic fluid a locally increased pressure from the clamping surface on the abutment surface.

It is submitted that the subject matter of independent claims 25 and 33 are neither taught nor suggested by the Musse and Lee references of record taken together or individually. In particular, neither reference teaches or suggests the claimed power unit. Claims 26 - 32 and 34 - 37 are allowable for the same reasons as claims 25 and 33 as well as on their own accord.

When the invention set forth in the claims was made, there was a practical problem to be solved. When manufacturing stainless steel plates used in large heat exchangers, there is a requirement for very small tolerances, less than 0.1 mm in the patterns produced on the plates by pressing them in a tool. The total pressing force was about 12000 metric tons. Under such big loads

neither the slide of the press nor the upper tool part perform as fully rigid bodies. Instead, they are distorted which locally affects the pressure exerted on different parts of the tool.

The problem was in practice that the pressing force in a central part of the tool was too low. It was impossible to remedy this problem at reasonable costs using prior art techniques. According to the present invention, it is possible to exert a force of 7000 tons on a central part of the tool while there is a force of 5000 tons acting on the periphery of the tool. The effect achieved was quite the same as placing a shim between the upper surface of the tool and the lower surface of the press slide. During operation, the power unit is filled with a hydraulic fluid and sealed and could, therefore, be regarded as a completely rigid body.

The Musse patent discloses a coating press for sheet-like workpieces. The purpose of the press is to have a homogeneous, i.e. isobaric, pressure distribution on the whole workpiece even if the thickness thereof varies locally. It is an object in Musse to compensate for deformation of the press plates as a consequence of thermal stresses.

The Musse coating press has hydraulic cushions (1) which are connected to a compensating vessel (13) containing a compressible gas. This means that the hydraulic cushions (1) are fully elastic, not rigid. In Musse, the pressure plates (15) are shown in the drawings as being very thin. Therefore, they could not be compared to the tool parts (8) and (10) of the present invention as they could not, due to their lack of thickness, perform any

shaping function for shaping stainless sheet metal workpieces. From paragraph 0037, last two lines, of the specification in the patent application publication of this patent, it is evident that they are easily bent.

Thus, in Musse, the surfaces acting on the coating material (25) and the workpiece (24) are flexible and exert an isobaric pressure and could therefore easily and must follow any defects and irregularities in the surface of the workpiece or its covering material. The effect achieved by Musse by the two hydraulic cushions (1) is very similar to what is achieved by a waterbed.

Musse could not be modified to include the power unit of the present invention. To make such a modification would mean that the workpiece locally would be exposed to an increased pressure which would, of course, be detrimental and quite contrary to Musse's stated purpose. Further, if Musse's approach was used in a press according to the present invention, the results would be even worse than those of prior art presses.

There is a significant difference between the approach taken by Musse and the approach taken by Applicants, which difference is not rendered obvious by the secondary reference to Lee.

The instant application is believed to be in condition for allowance. Such allowance is respectfully solicited.

Should the Examiner believe an additional amendment is needed to place the case in condition for allowance, the Examiner is hereby invited to contact Applicants' attorney at the telephone number listed below.

A request for a three month extension of time is enclosed. The Director is hereby authorized to charge the

extension of time fee in the amount of \$1,110.00 to Deposit Account No. 02-0184.

Should the Director determine that an additional fee is due, he is hereby authorized to charge said fee to said Deposit Account No. 02-0184.

Respectfully submitted,
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